

## APPENDIX 4.3

### Brainstorming Session for Problems and Concerns

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The Advisory Committee met in three subcommittees to brainstorm a draft Action Plan, consider cost/benefits, prioritize projects, and set an implementation timeline and standard. During the work sessions, subcommittee members reviewed projects relevant to their mitigation topics and focused on existing and future infrastructure.

During the October 19, 2010 meeting, the Advisory Committee met in subcommittees to discuss general problems, concerns, and specific activities to mitigate the hazards to reduce or avoid long-term vulnerabilities. The Advisory Committee voiced various concerns, problems, and ideas for all 13 hazards. Many of the problems, concerns, and project ideas are similar to the 2005 Plan. The Brainstorming session is detailed in Appendix 4.3.

From these general concerns, problems and concerns, Project Staff drafted a first cut at an Action Plan which was submitted to the Advisory Committee for refinement at the next Advisory Committee meeting. Some of the mitigation actions initially identified in the brainstorming sessions were ultimately eliminated in the action plan due to existing programs and legislation or due to limited capabilities, prohibitive costs, low benefit/cost ratio, or other concerns as described in the following subsection.

During the October 19, 2010 meeting, the Advisory Committee met in three subcommittees to discuss general problems, concerns, and specific activities to mitigate the hazards to reduce or avoid long-term vulnerabilities. The brainstorming session gave the Project Staff the vehicle needed to draft initial activities and projects for an action plan. The Advisory Committee voiced various concerns, problems, and ideas for all 13 hazards. Many of the problems, concerns, and project ideas are similar to the 2005 Plan.

From these general concerns, problems and concerns, Project Staff drafted a first cut at an Action Plan which was submitted to the Advisory Committee for refinement at the next Advisory Committee meeting. Some of the mitigation actions initially identified in the brainstorming sessions were ultimately eliminated in the action plan due to existing programs and legislation or due to limited capabilities, prohibitive costs, low

#### Mitigation Strategy 2010/11 Schedule

- **September 15** Begin Mitigation Strategy.
  - Review Fact Sheets.
  - Presentations from all hazard representatives.
- **October 19**
  - Continue presentations from all hazard representatives.
  - Review Capability Assessment.
  - Introduce 2005 Goals and Objectives for review.
  - Subcommittees to brainstorm concerns/problems.
- **November 16** Develop Mitigation Strategy
  - Action Plan/ Subcommittees
  - Approve revised Goals and Objectives
  - Using STAPLEE criteria
  - Funding & Technical Assistance
  - Priorities & Goals
- **February 16, 2011** finalizing Action Plans

benefit/cost ratio, or other concerns.

Prior to analyzing and prioritizing mitigation actions, it was useful for the Advisory Committee to sort identified mitigation actions into the following groups:

1. **Preventive** activities keep problems from getting worse. Land use and development of hazard areas is limited through planning, land acquisition, or regulation. Preventive measures are particularly effective in reducing a community's future vulnerability, especially in areas where development has not occurred or capital improvements have not been substantial.
2. **Property protection** activities are usually undertaken by property owners on a building-by-building or parcel basis. Property protection measures protect existing structures by modifying the building to withstand hazardous events, or removing structures from hazardous locations.
3. **Structural projects** are intended to lessen the impact of a hazard by modifying the environmental natural progression of the hazard event and are usually designed by engineers.
4. **Natural resource protection** activities preserve or restore natural areas or the natural functions of floodplain and watershed areas. They are usually implemented by parks, recreation, or conservation agencies or organizations.
5. **Emergency services** measures are taken during an emergency to minimize its impact. These measures often are the responsibility of emergency management responders and staff and the owners or operators of major or critical facilities.
6. **Public information and awareness** activities advise property owners, potential property owners, and visitors about the hazards, ways to protect people and property from the hazards, and the natural and beneficial functions of local floodplains.

Following is a summary of all the topics and problems discussed in the three subcommittees for all 13 hazards and the general category for "all hazards".

## **FLOOD CONCERNS / PROBLEMS**

### **Potential Preventive Activities**

- Updating Floodplain Ordinance, particularly the enforcement section
- Funding all new flood studies for mitigation from MSD's general fund
- Permanent signage on the parkway areas to let people know that they are entering a floodprone area
- Parking sign ordinance for existing floodprone areas. Coordinate with MSD and Public Works
- Critical facilities analysis to see if any lie in unmapped FEMA floodplain areas that might unknowingly be at risk
- On-going Corp projects, the Mill Creek Study.

## **Potential Structural Projects**

- Building additional detention basins
  - Aluma Basin
  - LaClede Basin
  - Tin Dor Way Basin
- Possible detention upstream of the St. Mary and Elizabeth Hospital
- Bluegrass Avenue Box Culvert – remove the ‘reverse’ invert (remove siltation) and possibly add a second barrel at this intersection,
- Lift station at Churchman Avenue - separate stormwater system.
- Partner with parks for flood control projects. i.e. Metro Parks is contemplating flood water retention projects in cooperation with MSD, but is awaiting plans from MSD. E.g. Iroquois Park

## **Property Protection**

- Rehab, replace and update flood pump stations
  - Verify emergency generators and backup
- Metro Parks is reviewing its buildings for flood damage mitigation.
  - Checking backflow prevention devices, floor drains, sump pumps, gutters and downspouts, and sheet runoff diversion.
  - Mitigation projects identified in this review will be placed on a repair schedule and accomplished as funds permit over the next five years.
- Future floodplain buyouts throughout the county, specifically properties in the floodway
- Acquisitions in the combined sewer service area (CSSA).

## **Natural Resource Protection Activities**

- Stream restoration of Mill Creek away from the parking lot
- Establish and coordinate tree programs and partnerships to increase tree canopy, parkway areas. Part of the plant 10,000 trees campaign. Partner with Planning Design Services (PDS)
  - Metro Parks will continue over the next five years to replace trees along parkways and in landscaped park areas as needed to retain tree canopy cover in the metropolitan area.
  - Metro Parks is contemplating expansion of the tree canopy in the metropolitan area, if funds are available for this purpose.

## **Public Information and Awareness Activities**

- Education of the public from keeping critical items out of basements – computers, books, important files, etc.....base the audience on regulatory floodplain or customer service requests rather than just the FEMA floodplains
- Better educate the public regarding floodprone areas, flood insurance and plumbing modification programs

## **Emergency Services Measures**

- Place flood elevation markers along roads that are frequently overtopped to demonstrate to drivers/pedestrians how deep the water is
- Mark low areas to show high water levels
- Lexington Road as it enters St. Matthews is a bad section for flooding

## **DAMS & LEVEES**

- Breach analysis of high hazard dams
- EOP and public notification plan for all high hazard dams
- Simple public statement of dam classification and requirements, data needs
- Update list and available information on all dams in Jefferson County
- Parks needs to do some remedial work on their dams – maintenance and inspection needed, coordinated with MSD
- Public awareness through use of levees and dams for recreational purposes; signage of the Flood Protection System history and assets
- Ash Ponds – Haz-Mat risk

## **TEMPERATURE, SOILS & GEOLOGICAL**

### **Drought**

- Drought issues increase cost of food. Promote canning through 4H programs
- New water wells
- Information (historic data) on losses and occurrences
- More public awareness during drought to encourage early conservation measures

### **Earthquake**

- Education in school (JCPS participates with state on statewide earthquake drill)-start earlier (pre-school). Take the information home
- Identify high risk structures

### **Extreme Heat**

- Coordinate with non-traditional agencies for community outreach
- Promote national NWS campaign to unveil “Beat the Heat Check the Backseat” in March 2011 with Al Roker in NYC. Perhaps we could have Louisville be a test bed to promote child heat safety in vehicles.

### **Karst/Sinkhole**

- Dye tracing by KDOW, partner with KGS

### **Landslides**

- Slope stabilization on Brinson Drive at land acquisition site

### **Wildfire**

- Increase enforcement of no burn regulations
- Increase public awareness during drought
- Clean up of damaged trees. Partner with Metro Parks

## **WIND DRIVEN HAZARDS AND HAZ MAT**

### **Severe Winter Storms**

- LOJIC maps showing snow routes (live routes) should be more accessible/better advertised e.g., radio and media links, Metro TV. Outreach to public/ advertise, maybe use Mayor's Media office.
  - Show GPS, real-time
- Expand Operation Snow & Transportation planning – staggered release plan to ease traffic before snow storms, esp. downtown
- Consider winter weather when purchasing vehicles such as ambulances (hard to get through neighborhood roads covered in snow)

### **Wind-Driven Hazards (Severe Thunderstorms, Lightning, Tornadoes)**

- Tornado Shelters for manufactured homes
- Tornado shelter/safe room for Minors Lane Neighborhood property. Minors Lane school is being opened for the community during severe storm warnings for 2 manufactured parks. A separate 24-hour available independent shelter is desperately needed. This would give immediate access to the community. Estimated cost \$200,000.
  - Look for location at manufactured parks, JCPS, UPS property
- Require all new manufactured parks to build a safe room
- Generators in schools used as tornado shelters
- Outbound calls from LG&E re: outages

### **Haz-Mat**

- Haz-Mat traffic routes/avoid populated areas/dangerous roads (hospital curve)
- EOP for private companies – should be more strict in Haz-Mat Ordinance enforcement
- Public education for sheltering-in-place
- Promotion of education of hazmat activities
- Getting companies with just below large amounts of chemicals to consider the effects of natural hazards on their stock of hazardous materials.
  - Companies with over 10,000 lbs of most chemicals are required to have detailed plans for many scenarios but companies with anything less than this may not.
- Changes to the haz-mat ordinance could be made to get these companies to at a minimum show they have considered the possible effects of natural or manmade hazards on the release of their chemicals.

- Promote no Haz-mat supplies stored directly on ground, in case of flooding.
- Amending the Haz-mat ordinance to include requirements for addressing potential flooding as part of the HMPC plans.
  - The floodplain ordinance prevents most new facilities in the local regulatory floodplain (LRFP) but there are plenty of existing facilities out there in the floodplain and in the combined sewer overflow (CSO) area and other unmapped floodplains and this would help in mitigating them.
- an outreach program to those individuals and small businesses that have haz-mat, but aren't required by law to have a spill plan to encourage storing materials in a safe manner above flood potential, or anchoring tanks, etc.

## **ALL-HAZARDS**

- Special needs database - to help plan for shelters – know where to check on people – contact info. Design plan to update list regularly.
- Special needs registry - Promote campaign to self-identify if special needs in household
- Special needs preparedness program
- Emergency Department discharge data for our preparedness epidemiologist for six syndromes
- Health Impact Assessment “tool” for evaluation of proposed development projects in connection with the potential ramifications to the health and wellness of stakeholders
- Community Health Education and promotion potentially partnering with others to serve as a “clearing house” in order to help people find proper resources for such things as health screenings, existing education or outreach programs, etc.
- Promote the use of early warning systems in multiple languages
- Promote better personal planning/public education for disaster preparedness
- NWS notifications – add to Web EOC
- Train more people to use Web EOC.
- School education programs – self preparedness
- News media used for public education
- Eighteen emergency generators to completely supply electrical power for all shelters both for the school system and the community.
- Training: Provide funding for professional development for administrators for Mitigation, Preparedness, Response and Recovery through JCPS’ Safety Procedures Manual training. Additional FEMA Introduction to Incident Command for Schools course would also be administered.
- To enhance communication systems through 2-way radio system compatible with MetroSafe including radios for buses.
- Basic emergency supply kit for schools and medical/medicine storage – to have minimal storage for medicines and records for school.
- Generators for EMS to charge life-saving equipment, especially for life-saving equipment, e.g., oxygen
- Need oxygen generators in ambulances
- Portable water purification systems